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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Juergen Schultz

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EXAMINER

FAULK, DEVONA E

ART UNIT

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12/09/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/511,617	Applicant(s) SCHULTZ, JUERGEN	
	Examiner DEVONA E. FAULK	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 9/1/09 have been fully considered but they are not persuasive. Regarding claims 12-15,16,18-20-25 the applicant essentially asserts the same argument, that the prior art , particularly Thomas, fails to disclose " attenuating the signal level of each transmitter in accordance with a respective weight factor". The examiner disagrees. The abstract clearly states that a weighting factor is applied to each microphone before emitting based on the two attenuation factors computed from the microphone and loudspeaker signals. The examiner asserts that this reads on the claim language and is maintaining the rejection.
2. Applicant's arguments, regarding claim 17, filed 9/1/09, with respect to the rejection(s) of claim(s) 17 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of official notice.
3. Claims 1-11 are cancelled.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. **Claims 12-15,17-20,22,24,25** are rejected under 35 U.S.C. 103(a) as being unpatentable over McGregor et al. (US 4,965,833) in view of Maston (US 3,755,625) in further view of Thomas et al. (US 6,424,720).

Claims 12 and 22 share common features.

Regarding **claims 12 and 22**, McGregor discloses a communications device for transmitting acoustic signals in a motor vehicle (column 1, lines 32-38; column 3, lines 41-54 abstract, Figure 1), comprising:

at least two transmitter devices configured to transmit acoustic signals (Figure 2, front/rear microphones 6 and 9, amplifier/electrical conditioning units 8,11);

at least two receiver devices configured to emit acoustic signals (Figure 2, front/rear loudspeakers 7 and 10, Figures 2,5 and 6; column 3, lines 41-54);

a control unit configured to activate and deactivate at least the transmitter devices (switching unit 12, Figure 2; column 3, lines 27-33; column 1, lines 32-47);

wherein at least one transmitter device and at least one receiver device are assigned to a spatial position (column 2, lines 1-15, "favorable acoustic position"), the transmitter devices configured to detect signal levels in accordance with the control unit switching unit 12, Figure 2; column 2, line 56- column 3, line 40;column 1, lines 32-47), the control unit configured to activate a transmitter device (column 2, line 56- column 3, line 40), the control unit assigned at least one control element configured to at least one of (a) selectively deactivate at least one transmitter device independently of an applied signal level (on/off switch , latch switch 24, push-button 25, by which the

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amplifier/electrical conditioning unit can be selectively deactivated ; column 5, line 45-column 6, line 36) .

McGregor fails to disclose that the signal level of at least one transmitter is weighted by means of the control element and that the signal level at the transmitters can be measured by means of the control element and only the transmitter with the highest signal level is activated .

Maston disclose a multi-microphone-loudspeaking system including a comparator that selects the microphone with the greatest output and connects it while simultaneously disconnecting the other microphones (abstract; his reads on the activating only one transmitting device language recited in the claims and weighing signal levels of at least one transmitter device. It would have been obvious to modify McGregor so that the signal levels from each of the microphones are weighted and so that only the transmitter with the highest signal level is activated in order to minimize background noise.

McGregor as modified fails to disclose that the control unit attenuates or amplifies the signal level of each transmitter device in accordance with a respective weighting factor based on the weight. .

Thomas teaches of attenuating the signal level of each transmitter in accordance with a respective weighting factor (see abstract; column 1, line 58-column 2, line 67; column 8, lines 8, lines 26-67).

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It would have been obvious to modify McGregor as modified by Maston so that the signal level of each transmitter is attenuated in accordance with a respective weighting factor for the benefit of reducing echo and to better adapt sound to space.

Regarding **claim 13**, McGregor as modified discloses wherein the control element is configured to deactivate at least one receiver element independently of the signal levels (McGregor, column 2, line 56- column 3, line 40; column 6, line 10-column 7, line 6).

Regarding **claim 14**, McGregor as modified discloses wherein the transmitter devices include at least one of (a) a microphone and (b) a microphone array (McGregor; column 2, line 56- column 3, line 40).

Regarding **claim 15**, McGregor as modified discloses wherein the receiver devices include a loudspeaker (McGregor; column 2, line 56- column 3, line 40).

Regarding **claim 17**, McGregor as modified fails to disclose of time-delay elements configured to compensate for differences in propagation time. The examiner takes official notice that using time-delay elements to compensate for differences in propagation time between a transmitter and receiver is well known in the art. It would have been obvious to modify McGregor as modified to include time-delay elements to compensate for differences in propagation in order to determine the location of a source.

Regarding **claim 18**, McGregor as modified discloses further comprising echo compensators arranged between the transmitter devices and the receiver devices (McGregor; column 2, line 56- column 3, line 40; column 6, line 10-column 7, line 6).

Regarding **claim 19**, McGregor as modified discloses further comprising attenuation devices arranged between the transmitter devices and the receiver devices (McGregor, Figure 2; column 3, lines 21-40).

Regarding **claim 20**, McGregor as modified discloses wherein the control element includes at least one of (a) a non-locking key, (b) a switch, (c) a rotary transducer and (d) a pressure transducer (McGregor; column 2, line 56- column 3, line 40; column 6, line 10-column 7, line 6; switching unit).

Regarding **claims 24 and 25**, the prior art has recognized selectively deactivating at least one receiver device independently of an applied signal level (see McGregor as applied to claim 13 above). It would have been obvious to try, with a reasonable expectation of success, selectively deactivate at least one transmitter device independently of an applied signal, for the benefit of reducing background noise.

7. **Claim 16**, are rejected under 35 U.S.C. 103(a) as being unpatentable over McGregor et al. (US 4,965,833) in view of Maston (US 3,755,625) in view of Thomas et al. (US 6,424,720) in further view of Lee et al. (US 4,449,238).

Regarding **claim 16**, McGregor as modified fails to disclose wherein the control unit is configured to one of (a) deactivate an assigned receiver device of an active transmitter device and (b) reduce a level of the assigned receiver device of the active

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transmitter device. Lee discloses wherein the control unit is configured to one of (a) deactivate an assigned receiver device of an active transmitter device and (b) reduce a level of the assigned receiver device of the active transmitter device (Lee, column 2, lines 32-66) . It would have been obvious to modify McGregor as modified so that the control unit reduces a level of the assigned receiver device of the active transmitter for the purpose of controlling the output level.

8. **Claims 21 and 23 are** rejected under 35 U.S.C. 103(a) as being unpatentable over McGregor et al. (US 4,965,833) in view of Maston (US 3,755,625) in view of Thomas et al. (US 6,424,720) in further view of Yoshioka (JP 10-032898).

Regarding **claims 21 and 23**, McGregor as modified discloses a display (illuminating means provided for the latch switch and push-buttons; McGregor). McGregor as modified fails to disclose further comprising a multifunction operation unit configured to display a position of the transmitter devices and the receiver devices, the control element assigned to the multifunction operation unit and configured to display seating positions corresponding to positions of the transmitter devices and receiver devices. Yoshioka discloses a display (1, Figure 1) that displays each seat position (see abstract). Each seat position corresponds to a sound field position. In light of the prior art, it would have been obvious to try to have the seat position correspond to a transmitter and receiver position, with a reasonable expectation of success, in order to set a sound field at a desired seat position

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEVONA E. FAULK whose telephone number is (571)272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devona E. Faulk/
Primary Examiner, Art Unit 2614